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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,278	12/31/2003	Jean-Marc Verdiell	30320/16646	9199
4743 7590 08/08/2007 MARSHALL, GERSTEIN & BORUN LLP 233 S. WACKER DRIVE, SUITE 6300 SEARS TOWER CHICAGO, IL 60606			EXAMINER TRAN, DZUNG D	
			ART UNIT 2613	PAPER NUMBER
			MAIL DATE 08/08/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/750,278	Applicant(s) VERDIELL, JEAN-MARC	
	Examiner Dzung D. Tran	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 and 21-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-20, and 26-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. Applicant's election with traverse of species 5, claims 9-57 in the reply filed on 05/08/2007 is acknowledged. The traversal is on the ground(s) that examiner has not shown a "serious burden on the examiner". This is not found persuasive because examiner already shown the distinct species of the claimed invention. Furthermore, species 5 is only read on claims 9-20 and 26-57.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 10 recites the limitation "the number of TO-can packaged photo detectors" in line 6 of claim. There is insufficient antecedent basis for this limitation in the claim.
3. In claim 13, it is unclear what is meant by "wherein each of the plurality of TO-can packaged laser source is replaced by an optical fiber". Claim 1 claimed the plurality of TO-can packaged laser sources generates one of the plurality of optical signal. How can an optical fiber generates one of the plurality of optical signal ?.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 9-12, 15-16, 18 and 19 rejected under 35 U.S.C. 102(e) as being anticipated by Richard et al. US 2003/0076559.

Regarding claims 9 and 15, Richard discloses in Figure 2A, a method/apparatus of an optical signal transmitting apparatus comprising:

a housing 102;

a coupling lens to 110 connected to the housing (paragraph 0127);

a plurality of TO-can packaged laser sources 108a to 108d located on the housing, where each of the plurality of TO-can packaged laser sources generates one of a plurality of optical signals λ_1 , λ_2 , λ_3 , λ_4 each of the plurality of optical signals having a different wavelength; and

a plurality of wavelength selective filters 104a to 104d located within the housing, where the plurality of wavelength selective filters directs one of the plurality of optical signals from one of the plurality of TO-can packaged laser sources towards the coupling lens (see Figure 2A).

Regarding claims 10 and 18, as far as examiner understood, Richard discloses in Figure 2B, wherein the housing 102 is connected by the coupling lens to an optical fiber 11 carrying a wavelength division multiplexing signal λ_1 , λ_2 , λ_3 , λ_4 , wherein the number of different wavelengths carried by the wavelength division multiplexing signal corresponds to the number of the TO-can packaged photo-detectors 109a, 109b, 109c, 109d.

Regarding claims 11 and 16, as far as examiner understood, Richard discloses wherein the number of wavelengths carried by the wavelength division multiplexing signal is four λ_1 , λ_2 , λ_3 , λ_4 .

Regarding claims 12 and 19, as far as examiner understood, Richard discloses wherein the wavelength division multiplexing signal is one of a coarse wavelength division multiplexing signal and a dense wavelength division multiplexing signal (paragraph 0060).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 20, 26-29, 31-32, 34-37, 40-45, and 50-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richard et al. US 2003/0076559 in view of Nasu et al. US 2003/0108353.

Regarding claims 26 and 34, Richard discloses in Figure 2A, a method/apparatus of an optical signal transmitting apparatus comprising:

a housing 102;

a coupling lens to 110 connected to the housing (paragraph 0127);

a plurality of TO-can packaged laser sources 108a to 108d located on the housing, where each of the plurality of TO-can packaged laser sources generates one of a plurality of optical signals λ_1 , λ_2 , λ_3 , λ_4 each of the plurality of optical signals having a different wavelength; and

a plurality of wavelength selective filters 104a to 104d located within the housing, where the plurality of wavelength selective filters directs one of the plurality of optical signals from one of the plurality of TO-can packaged laser sources towards the coupling lens (see Figure 2A).

Richard further discloses in Figure 15F, a controller 1554 where the controller receives the plurality of electrical signals from the plurality of TO-can packaged photodiodes and in response to the plurality of electrical signals changes the operating parameters of the TO-can packaged laser source (paragraphs 0104-0105).

Richard does not specifically disclose a partial reflective mirror direct portions of the optical signal from TO-can packaged laser sources towards the coupling lens and a second wavelength selective filters.

Nasu, from the same field of endeavor, discloses in Figure 11, a partial reflective mirror 8a, 8b direct portions of the optical signal from TO-can packaged laser sources 42 towards the coupling lens 23 and photo-detector 44, 45 for controlling the TO-can packaged laser source. At the time of the invention was made, one of ordinary skill in the art would have been include the partial reflective mirror 8a, 8b direct portions of the optical signal from TO-can packaged laser sources 42 towards the coupling lens 23 and photo-detector 44, 45 for controlling the TO-can packaged laser source taught by Nasu in the apparatus of Richard. One of ordinary skill in the art would have been motivated to do that in order to adjusting and controlling the optical power of the TO-can packaged laser source.

Regarding claims 27 and 35, Richard discloses a coupling lens to 110 connected to an optical fiber 110 (paragraph 0127)

Regarding claims 28 and 29, Richard discloses wherein the housing is made of a solid block of one of (1) silicon, (2) glass, and (3) optically transparent plastic and is made of a shell of one of (1) steel, (2) plastic, and (3) ceramic (paragraphs 0073).

Regarding claim 38, Richard discloses wherein the number of wavelengths carried by the wavelength division multiplexing signal.

Regarding claim 32, Nasu discloses in Figure 11, wherein the number of the plurality of TO-can packaged photodiodes is two (i.e., 44, 45).

Regarding claim 36, Nasu discloses wherein the operating parameters of the plurality of TO-can packaged laser sources include one of (1) temperature of the plurality of TO-can packaged laser sources and (2) electric current of the first plurality

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of electric signals applied to the plurality of TO-can packaged laser sources (see Figure 10).

Regarding claims 40, 50 and 51, Richard discloses in Figure 2A, a method/apparatus of an optical signal transmitting apparatus comprising:

- a housing 102;

- a coupling lens 110 connected to the housing (paragraph 0127);

- a plurality of TO-can packaged laser sources 108a to 108d located on the housing, where each of the plurality of TO-can packaged laser sources generates one of a plurality of optical signals λ_1 , λ_2 , λ_3 , λ_4 each of the plurality of optical signals having a different wavelength; and

- a plurality of wavelength selective filters 104a to 104d located within the housing, where the plurality of wavelength selective filters directs one of the plurality of optical signals from one of the plurality of TO-can packaged laser sources towards the coupling lens (see Figure 2A).

Richard further discloses in Figure 15F, a controller 1554 where the controller receives the plurality of electrical signals from the plurality of TO-can packaged photodiodes and in response to the plurality of electrical signals changes the operating parameters of the TO-can packaged laser source (paragraphs 0104-0105).

Richard does not specifically disclose a partial reflective mirror direct portions of the optical signal from TO-can packaged laser sources towards the coupling lens and a second wavelength selective filters.

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Nasu, from the same field of endeavor, discloses a partial reflective mirror 8a, 8b direct portions of the optical signal from TO-can packaged laser sources 42 towards the coupling lens 23 and photo-detector 44, 45 for controlling the TO-can packaged laser source. At the time of the invention was made, one of ordinary skill in the art would have been include the partial reflective mirror 8a, 8b direct portions of the optical signal from TO-can packaged laser sources 42 towards the coupling lens 23 and photo-detector 44, 45 for controlling the TO-can packaged laser source taught by Nasu in the apparatus of Richard. One of ordinary skill in the art would have been motivated to do that in order to adjusting and controlling the optical power of the TO-can packaged laser source.

Regarding claims 41 and 54, Nasu discloses wherein the operating parameters of the plurality of TO-can packaged laser sources include one of (1) temperature of the plurality of TO-can packaged laser sources and (2) electric current of the first plurality of electric signals applied to the plurality of TO-can packaged laser sources (see Figure 10).

Regarding claims 42 and 56, Richard discloses wherein the number of wavelengths carried by the wavelength division multiplexing signal is four λ_1 , λ_2 , λ_3 , λ_4 .

Regarding claims 44 and 45, Richard discloses wherein the housing is made of a solid block of one of (1) silicon, (2) glass, and (3) optically transparent plastic and is made of a shell of one of (1) steel, (2) plastic, and (3) ceramic (paragraphs 0073).

Regarding claims 20, 31, 37, 43, 55, Examiner take an official notice that an optical signals carries data at a rate of approximately 2.5 giga-bits per second is well known in the art. Furthermore, whether or not to have an optical signal carries data at a rate of approximately 2.5 giga-bits per second is merely an engineering design choices.

8. Claims 14, 17, 30, 46-49, 52-53 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richard et al. US 2003/0076559 in view of Nasu et al. US 2003/0108353 and further in view of Goodman et al. US 2002/0154857.

Regarding claims 14, 17, 30 and 46, the combination of Richard and Nasu does not specifically disclose wherein the wavelength selective filter is a multi-layered dichroic filter. Goodman discloses wavelength selective filter is a multi-layered dichroic filter (paragraph 0009). At the time of the invention was made, one of ordinary skill in the art would have been include the dichroic filter taught by Goodman in the apparatus of Richard. One of ordinary skill in the art would have been motivated to do that in order to filtering the specific wavelength.

Regarding claims 47-49, 52-53 and 57 wherein the wavelength selective filter is a dichroic filter or has a wavelength to reflectivity profile of one of (1) linear form and (2) saw-tooth form or the plurality of optical signals includes a calibrating overtone signal is merely an engineering design choices.

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9. Claims 33 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Bloom et al. U.S. Publication no. 2003/0048513. Multi-channel optical transceiver
- b. Althaus U.S. Patent no. 6,493,121. Bi-directional module for multi-channel use

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dzung Tran
08/03/2007


DZUNG TRAN
PRIMARY PATENT EXAMINER